REMARKS

Claims 1-3, 5-7, and 9-28 are pending in the application. Claims 3-6, 22-24 and 27-28 were rejected by the Patent Office under 35 U.S.C. § 112, Second Paragraph. Claims 1-2 were rejected under 35 U.S.C. § 102(b). Claims 7, 10, and 25-26 were rejected under 35 U.S.C. § 103(a).

In this amendment and response, claims 3 and 22 are amended. Claims 1 and 2 are cancelled, and new claims 29-44 are added. Reconsideration of the claims is requested in light of the amendments and remarks set out below.

1. **35 U.S.C. § 112, Second Paragraph: Rejection of Claims 3 and 22**

The Office rejects claims 3 and 22 under 35 U.S.C. § 112, Second Paragraph, as failing to particularly point out and distinctly claim the subject matter that Applicants regard as the invention. Specifically, the Office requests that Applicants amend the claims so as to identify functions for "a packet-type detector" and "a frequency measurement element" for these claims.

In regard to "a packet-type detector", Applicants amend claims 3 and 22 to recite ". . . a packet-type detector to detect packets of a particular type, said packet type detector coupled to said queue . . ." Applicants submit that this amendment adequately identifies a function of "a packet-type detector". Support for this amendment may be found at page 5, line 14-15 of the application as filed. As such, Applicants submit that this amendment does not constitute new matter.

In regard to "a frequency measure element", Applicants further amend claims 3 and 22 to recite ". . . a frequency measurement element to determine an expected frequency of a particular packet type, said frequency measurement element coupled to

said packet-type detector . . ." Applicants submit that this amendment adequately identifies a function of "a frequency measurement element". Support for this amendment may be found at page 14, lines 20-22 of the application as filed. As such, Applicants submit that no new matter has been added by virtue of this amendment.

Applicants note with appreciation that the Office has indicated that Claims 3 and 22, as well as claims 4-6, 23-24, and 27-28 will be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. § 112, Second Paragraph that are set forth in the office action. Applicants have amended claims 3 and 22 to overcome the rejections under 35 U.S.C. § 112, Second Paragraph. As such, Applicants respectfully submit that all of the pending claims now satisfy the requirements of 35 U.S.C. § 112, Second Paragraph, and Applicants request withdrawal of the rejections of claims 3-6, 22-24 and 27-28.

2. 35 U.S.C. § 102(b): Rejection of Claims 1 and 2

The Office rejects claims 1 and 2 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,315,580 to Phaal (hereinafter "Phaal").

In a prior response, Applicants requested the cancellation of claims 1-2. In the most recent office action, the Office states that these cancellations were not entered. Applicants again request cancellation of claims 1-2. The rejection of claims 1-2 under 35 U.S.C. § 102(b) is believed to be moot, and withdrawal of the rejection is respectfully requested.

3. 35 U.S.C. § 103(a): Rejection of Claims 7, 10 and 25- 26

The Office rejects claims 7, 10, 25-26 under 35 U.S.C. § 103(a) as unpatentable over Phaal in view of U.S. Patent No. 4,500,990 to Akashi (hereinafter "Akashi"). Applicants respectfully traverse these rejections.

Applicants' claim 7 recites a method that comprises steps for sampling a set of packets at a network interface of a switch. In the method, the sampling includes steps for adaptively altering the fraction of the packets sampled by maintaining a queue of sampled packets and altering the fraction of the packets sampled in response to a length of the queue. The method is useful for monitoring network traffic.

Applicants note with appreciation that the Office agrees that Phaal does not teach or suggest a feedback element for adaptively altering a fraction of packets for review that is in response to a length of a queue of selected packets. (Office Action at page 4.) However, Applicants disagree with the Office's position that such a structure would be obvious to one skilled in the art based on the teachings of Akashi.

According to the Office, Akashi teaches packet buffer 25 accompanied by buffer sensor or control circuit 27, which senses whether or not packet buffer 25 is still capable of storing an additional part of the selected packets in addition to the part already stored therein. In particular, according to the Office, buffer sensor circuit 27 compares the amount of the selected packets stored in packet buffer 25 with a threshold predetermined relative to the memory capacity of packet buffer 25. Buffer sensor circuit 27 produces a sensor output signal in which an overflow flag appears while packet buffer 25 is incapable of further storing the additional part. The sensor output signal is fed back to packet buffer 25 in enabling packet buffer 25 to store the additional part only during the absence of the overflow flag. (Office Action at page 5, citing Akashi, col. 5, lines 45-68.)

In order to render a claim obvious, a combination of references must, either individually or in combination, teach each and every limitation of the claim. As noted by the Office in the Office Action, Phaal does not teach or suggest a feedback element for adaptively altering a fraction of packets (i.e., for altering a sampling of packets) for review that is in response to a length of a queue of selected packets. Akashi also does not teach or suggest these limitations. Akashi contains no mention of sampling, and, as such, it cannot teach "adaptively altering" a fraction of packets or a sampling. Akashi does not discuss sampling because the invention disclosed in Akashi is not a network monitoring solution. Rather, the buffer/queue in Akashi simply temporarily holds packets that will ultimately be delivered in a network. See Akashi, col. 2, lines 39-41, and col. 3, lines 3-5. None of the packets are sampled and there is no indication that any network traffic information is gathered in regard to the packets.

In addition, Akashi also does not contain a mechanism to adaptively alter a packet selection or sampling, as in Applicants' claim 7. If the buffer in Akashi is full, an overflow flag simply indicates to the transmission medium that no more packets can be stored in the buffer. See Akashi, col. 3, lines 6-12. There is no feedback to "adaptively alter" a packet selection or sampling of packets, as claimed by Applicants. Applicants are unable to find any disclosure in Akashi that would suggest that the overflow flag influences any selection of packets for transmission. Akashi merely discloses that transmission is suspended upon detection of a collision (overflow flag set). Transmission resumes at a random variable interval. See Akashi, col. 4, lines 8-10. The fact that a random number is used to time the resumption of transmission reinforces the conclusion that Akashi does not adaptively alter any packet selection in response to a queue length.

Indeed, Phaal uses random numbers in sampling, but the office deemed Phaal insufficient to teach or suggest adaptive altering.

Additionally, the buffer size of Akashi remains static, and cannot be dynamically altered if network traffic increases or decreases. In other words, there is no indication in Akashi that the ratio of packets in the buffer is altered based on network traffic. In Applicants' disclosed subject matter, the size of the queue of sampled packets will also adjust in size as the fraction of sampled packets is adaptively altered. Applicants' sampling fraction may be made incrementally bigger or smaller so as to alter the fraction of packets sampled so as to vary how statistical measurements are taken. Once again, Akashi fails to disclose such limitations such as adaptively altering a sampling because it is geared towards basic packet transmission and does not concern itself with network traffic monitoring. Applicants submit that the references of record, taken individually or in combination, fail to teach or suggest the claimed subject matter.

Moreover, there is no motivation to combine Phaal and Akashi because Phaal teaches away from the use of buffers such as those employed in Akashi. Specifically, Phaal uses very small buffers "sufficient to hold only two or three entries" (Phaal, col. 5, lines 67-68). Phaal dismisses the use of larger buffers by stating that such are unnecessary because occasional overflow will "generally have a minimal effect on the statistical measurements being conducted by the network monitoring system." (Phaal, col. 6, lines 5-9). As such, because Phaal explicitly indicates that there is no reason to improve upon the limited buffers disclosed therein, one skilled in the art would not be motivated to combine the generally larger buffers of Akashi with the subject matter disclosed in Phaal.

Based at least on the foregoing reasons, Applicants submit that the rejection of claim 7 under 35 U.S.C. § 103(a) is improper. Accordingly, withdrawal of the rejection of claim 7 is respectfully requested.

Claims 10 and 25-26 each depend from claim 7, and, therefore, each of these dependent claims contains all of the limitations of claim 7. These dependent claims are not rendered obvious by the references of record at least for the reasons stated above for which claim 7 is not rendered obvious by the references of record. Furthermore, claim 10 claims a method as in claim 7, wherein said steps for adaptively altering a fraction of said packets for selection include steps for altering said fraction in response to two or more factors responsive to said selected packets. Applicants are unable to find any teaching or suggestion of these additional limitation(s) in any of the references of record.

Claim 25 claims a method as in claim 7, wherein a default value for said fraction is selected response to a bandwidth of said network interface. Claim 26 claims a method as in claim 25, wherein said fraction is adaptively altered based on a presence or absence of a particular type of packet selected from among plural types of packets. Applicants are unable to find any teaching or suggestion of these additional limitation(s) in any of the references of record. At least for the foregoing reasons, Applicants request withdrawal of the rejection of dependent claims 10, and 25-26 under 35 U.S.C. § 103(a).

4. Rejection of Dependent Claims 9 and 11-21

Claims 9 and 11-21 were rejected as being dependent on a rejected base claim. All of these claims are dependent on claim 7. Applicants have presented above reasons why the rejection of claim 7 is improper. Accordingly, the rejected dependent claims do not depend on a rejected base claim, and, therefore, withdrawal of the rejection of claims 9 and 11-21 is respectfully requested.

5. New Claims 29-44

Applicants respectfully request entry of new claims 29-44. New claims 29-44 are computer-readable medium claims corresponding to method claims 7, 9-21, and 25-26. Applicants respectfully submit that the new claims are supported by the application as filed, and, therefore, do not constitute new matter.

6. Miscellaneous

The Applicants believe that all issues raised in the Office Action have been addressed and that allowance of the pending claims is appropriate. Entry of the amendments herein and further examination on the merits are respectfully requested.

The Examiner is invited to telephone the undersigned at (408) 414-1210 to discuss any issue that may advance prosecution.

No fee is believed to be due specifically in connection with this Reply. To the extent necessary, Applicants petition for an extension of time under 37 C.F.R. § 1.136. The Commissioner is authorized to charge any fee that may be due in connection with this Reply to our Deposit Account No. 50-1302.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Box Amend, Commissioner for Patents, Washington, DC 20231.

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